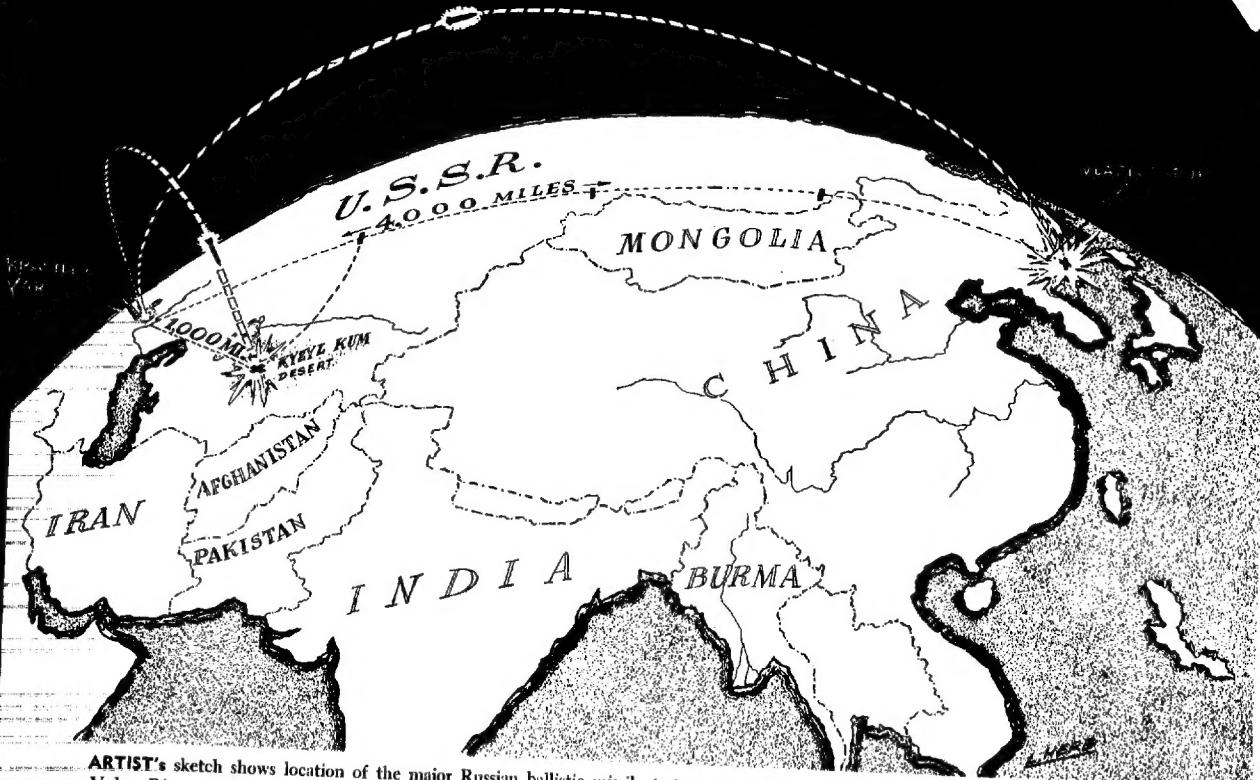


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ARTIST's sketch shows location of the major Russian ballistic missile test center at Krasny Yar located due west of a large bend in the Volga River between Stalingrad and Saratov. Intermediate range runs southeast with impact area in the Uzbek Desert near the Afghanistan border. Long range missiles and the Soviet's Sputnik satellite are fired on a track just a few degrees north of due east missiles and can establish trajectory along long-range missile flight path.

How U.S. Taps Soviet Missile Secrets

Powerful, long-range radar units based in Turkey have tracked Russian launchings for two years.

Washington—U.S. has been tapping Russia's missile secrets for more than two years by means of extremely powerful long-range radar and other equipment based in Turkey. Operation of this equipment, well known to the Soviet Union, is considered by diplomatic sources as one of the reasons for the current heavy Russian military and political pressure on Turkey.

Backbone of the U.S. missile intelligence system is an AN/FPS-17 radar developed and operated by General Electric Co. near Samsun, Turkey, a seaside resort on the Black Sea. This radar can detect and track missile firings from the main Russian missile test center at Krasuv Yar (see map) on both the intermediate range extending to the southeast toward the Afghan border and the longer range track extending eastward on about a heading of 70 degrees to the Pacific Ocean in the

area around Vladivostok in Siberia. A similar radar set is operating at Laredo, Texas, (AW June 4, 1956, p. 23) where it is used to track ballistic missiles fired at the White Sands, N. M., Proving Grounds. Both radars have been in operation for several

... been in operation for several years. These two radars are believed to be the most powerful sets now operating in the world. They develop a peak power of about two megawatts but hold this power for a pulse about a thousand times longer than conventional radar. These sets now have a range of about 1,000 miles, depending upon the strength of return from a target. They use a simple type of coherent integration developed at the Lincoln Laboratory at Massachusetts Institute of Technology to amplify weak signals occurring below the noise level of the receiver.

Both of these radars are being modified to increase their range to 3,000

miles at extreme altitudes as indicated by USAF Chief of Staff Gen. Thomas D. White in a recent speech (AW Sept. 30, p. 25). This modification will involve application of Columbia University's ORDIR (ommirage digital radar) technique to the AN/FPS-17 by the Federal Scientific Corp. which was recently founded by scientists of the Columbia University Electronics Research Laboratory.

The General Electric operated radar near Samsun has provided data on the type of Russian missiles being launched from the Krasnyy Yar test complex, their speed, altitude, track and approximate range. Data is automatically recorded and transmitted to the U. S. where data reduction is handled by the Lockheed Missile Systems Division and the Stanford Research Institute.

In addition to the radar equipment in Turkey, there are other approaches to gathering Russian missile data from outside the borders of the Soviet Union. One possible approach is via Project Tom Thumb, a USAF unit developed

by the Hycon Manufacturing Co. of Pasadena, Calif., which is capable of detecting turbojet, ramjet and rocket engines at extremely long ranges and gathering fairly accurate data on the engine's performance. Another approach involves the use of optical equipment and spectrometry to identify missiles and supersonic aircraft in flight. This is based on the well known fact that each different configuration of aerial vehicle produces a different air disturbance pattern in flight.

The Turkey based complex of U.S. missile detection and performance monitoring equipment has been yielding results for well over two years, dating back to the first test firings of the Soviet intermediate range ballistic missile from the Krasny Yar complex during the summer of 1955.

Fairly complete data on this missile test program has been obtained, including a significant shift from the irregular pattern of experimental test firings to a regular five per month pattern, indicating a switch to production line sample test firings during 1956. This provided fairly conclusive evidence that the Soviet IRBM program had shifted from the development phase to production with an operational capability imminent.

Detection of the longer range, multi-stage ICBM test programs along the 70 degree track toward the Pacific began in late 1956. A variety of shots was recorded, including stage separation tests, maximum altitude attempts and finally long range firings impacting about 4,000 miles from the launching site. Present radar can not cover the entire distance of the long range firing. These long range firings began during the early summer of 1957, and the Soviets publicly announced they had successfully tested an ICBM late in August (AW Sept. 2, p. 27). During the summer months of June, July and August, there were at least eight firings of long range multi-stage missiles of various types along the Siberian track. It is believed the Russians are using the same launching equipment for their Sputnik satellites as for their ICBM.

The long range missile firing frequencies, irregular intervals and variety of tests conducted indicate that the Soviet ICBM program is still in a development test stage with production and operational capability in this field still two or three years distant.

USAF made its first test firing at the Cape Canaveral, Fla., missile test center of a Convair Atlas ICBM last June, fired another propulsion test vehicle in September (AW Sept. 30, p. 30) and has a third shot scheduled for early November. Test firings of the Army's Jupiter and the USAF's Douglas Thor IRBMs began early this year.

Convair Wizard Wins

Washington—Convair Wizard air defense system has been endorsed by the U. S. Joint Chiefs of Staff for development by the Air Force as the prime future defense against all types of aerial vehicles, including intercontinental ballistic missiles. Convair's Wizard system was in competition with the Army's Nike-Zeus system developed by Bell Laboratories and Douglas Aircraft Co. and another USAF sponsored system involving Boeing Airplane Co., General Electric and Ramo-Wooldridge Inc. (AW Oct. 7, p. 29; Oct. 14, p. 37).

Joint Chiefs in making the Wizard decision also reaffirmed USAF's responsibility for area air defense in contrast to the Army's role of point defense.

Wizard proposal was developed by Convair in cooperation with Radio Corp. of America and other specialist firms as an overall long-range air defense system that would be effective against all types of aerial vehicles, including Mach 2 bombers, air-to-ground missiles and long-range ballistic missiles. It is based on both long-range detection devices and long-range defensive missiles using solid propellants and involves considerable advanced component development work on special antennas, electronic antenna steering devices and high power sources.

Among the component developers associated with the Wizard program are:

- General Electric on missile warheads.
- Sanders Associates whose PANAR multi-element, multi-lobe antenna system is being adapted for Wizard due to its relative invulnerability to point-source jamming.
- D. S. Kennedy Inc. working on problems of big parabolas.
- Avco Inc. electronic antenna steering devices.

Special high power sources are being developed by Rome Air Development Center, Radio Corp. of America and EIMAC. Wizard is still primarily in the design proposal stage and would require at least five years to provide early stage hardware capable of systems operation.

Soviet Technical, Political Gains Spur Shift in Attitude on Defense

By Evert Clark

Washington—Major shift in administration attitude on the defense problem was under way last week as a result of Russian technological gains and diplomatic maneuvers, and strong recommendations by the President's Science Advisory Committee that U. S. missile effort be increased.

Beginning of the shift was made clear in statements by Vice President Richard M. Nixon and Deputy Defense Secretary Donald A. Quarles only a few hours after the Advisory Committee met with the President.

Secretary of State John Foster Dulles said a day later that the nation's security must come first even if that means greater sacrifices in the form of bigger budgets and higher taxes. All three administration officials spoke seriously of Russia's satellite and its implications.

The night before the Advisory Committee visited the White House, statements by public officials were still in the vein of former Defense Secretary Charles E. Wilson's remark that the satellite was a "scientific trick." Assistant to the President Sherman Adams spoke of "high score in an outer space basketball game" in referring to the U. S.-Soviet satellite situation.

Adams also pledged that President

Eisenhower, his administration "and indeed the Republican Administration that will succeed this one in 1960, will never weaken in their determination to hold to sensible budgetary and fiscal goals"—including "a balanced budget, a surplus sufficient to provide a tax cut" and continued payments to reduce the public debt.

'No Greater Mistake'

Nixon told a San Francisco audience that the U. S. "could make no greater mistake than to brush off this event (launching of Sputnik) as a scientific stunt of more significance to the man in the moon than to men on earth. We have had a grim and timely reminder of a truth we must never overlook—that the Soviet Union has developed a scientific and industrial capacity of great magnitude."

"Let us resolve once and for all that the absolute necessity of maintaining our superiority in military strength must always take priority over the understandable desire to reduce our taxes."

Quarles, speaking in New York, said: "As long as we are faced by the challenging threats of Soviet Russia, sacrifices will continue to be required in the form of individual effort, or impersonal effort in the form of taxes, that are greatly in excess of any we have

TAB



**"Fantastic — Appro
priate — Remarkable — the new
comes to life!"**

says columnist
VICTOR RIESEL

Over 300,000 **sightless Americans** till now have lived in a near-vacuum of news, with only the skimpiest knowledge of week-to-week happenings.

Their first complete news source, NEWSWEEK TALKING MAGAZINES, will be launched at the start of 1959. Under a non-profit arrangement between NEWSWEEK and the 100-year-old American Printing House for the Blind, each week the new issue of NEWSWEEK will be theirs to hear on long-playing records.

The enthusiastic welcome given this new service is expressed by New York labor columnist Victor Riesel, blinded by an acid-throwing gangster in 1956. Mr. Riesel must keep up with the latest news as it breaks and the background of stories.

"Braille material is outdated by the time you get it. What a great thing to slip a record onto my hi-fi and get a complete news magazine—with pertinent background and the color and conversation that make people come to life."

With your support
for the Fund,

**the news can truly come alive for
blind news seekers. Help them
enjoy the complete news you read in
NEWSWEEK—sure the privilege
of keeping fully informed on all the
vital and varied news each week.**



Please—send your contribution
for blind news-seekers—today!

- Blind individuals, schools and circulating libraries for the blind can hear NEWSWEEK's entire editorial contents weekly • Recorded on 8 sides of 4 long playing, unbreakable records. Shipped in a special container 2 days after publication. • Each record costs \$3.00, the container \$0.50—or \$3.50 per week. To send records to a blind person of your choice, write for details. • All contributions to this non-profit Fund are income-tax deductible.

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CONTRIBUTOR'S MANUSCRIPT

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THE BEE IN SPACE AND TIME

Danger—And Deterrents

While Premier Nikita Khrushchev paraded Armenian brandy and casually boasted to Sen. Hubert Humphrey of an 8,700-mile range H-bomb missile, a thousand half-frozen American engineers were ceaselessly working above the Arctic Circle to put up an electronic fence against the Red ICBM across the tundra.

The fence is called **BMEWS**, for Balistic Missile Early Warning System. The life-and-death mission of its new, ultra-long-range radar pickets is to pick up the tracks of a Russian ICBM attack—as soon as the missiles blast above the line-of-sight horizon (see chart right).

The BMEWS radars should not be confused with DEW (Distant Early Warning). The \$600 million spent on DEW was an investment in defense against surprise attack by jet bombers. Now, as the space age opens, 400-mile-range DEW radars are old-fashioned. They cannot reach out and "see" in time ballistic missiles thundering 600 miles high at speeds up to 15,000 mph. Today, at these speeds, Russia and the U.S. are 30 minutes apart.

Bad Measures Last week as President Eisenhower, in effect, confirmed at his news conference the Russian capability to make this trip, the Air Force and the Radio Corp. of America (prime contractor for BMEWS), tensely reported the missile warning system "is solidly on schedule as winter envelops the Arctic."

Behind their security-conscious progress report were months of grim labor at secret sites from Alaska to Greenland. In the Arctic summer, when temperatures were above freezing, workmen poured BMEWS radar foundations—giant concrete blocks that look like the dragon's teeth of Hitler's Siegfried Line. This week, as the long night closed in and blizzards lashed the tundra, welders added the steel girders, protected by huge plastic bubbles shaped like circus tents. Their schedule: Completion of the first BMEWS radar near Thule, Greenland, by summer, 1980; a second, at Clear, Alaska, one year later; then a third, in Scotland, for flank protection.

SAC Countermeasures When completed, these BMEWS radars will tower sixteen stories high. Instead of bouncing pulses off targets and clocking the return (like present DEW radar), BMEWS radar will send continuous waves and collect a continuous echo from the target. Maser devices build up the echo and separate it from background noise, then the echo is electronically interrogated to give the target's precise distance, speed, and direction. Moreover, all this is done at ranges of 3,000 miles or more.

Thrust and

RUSSIA stakes all in a nuclear showdown, fires its big T-3, an 8,700-mile, H-bomb-carrying missile, at American bases, cities 20 minutes away.

U.S.S.R.

should the Kremlin push-button the world into a nuclear-showdown war.

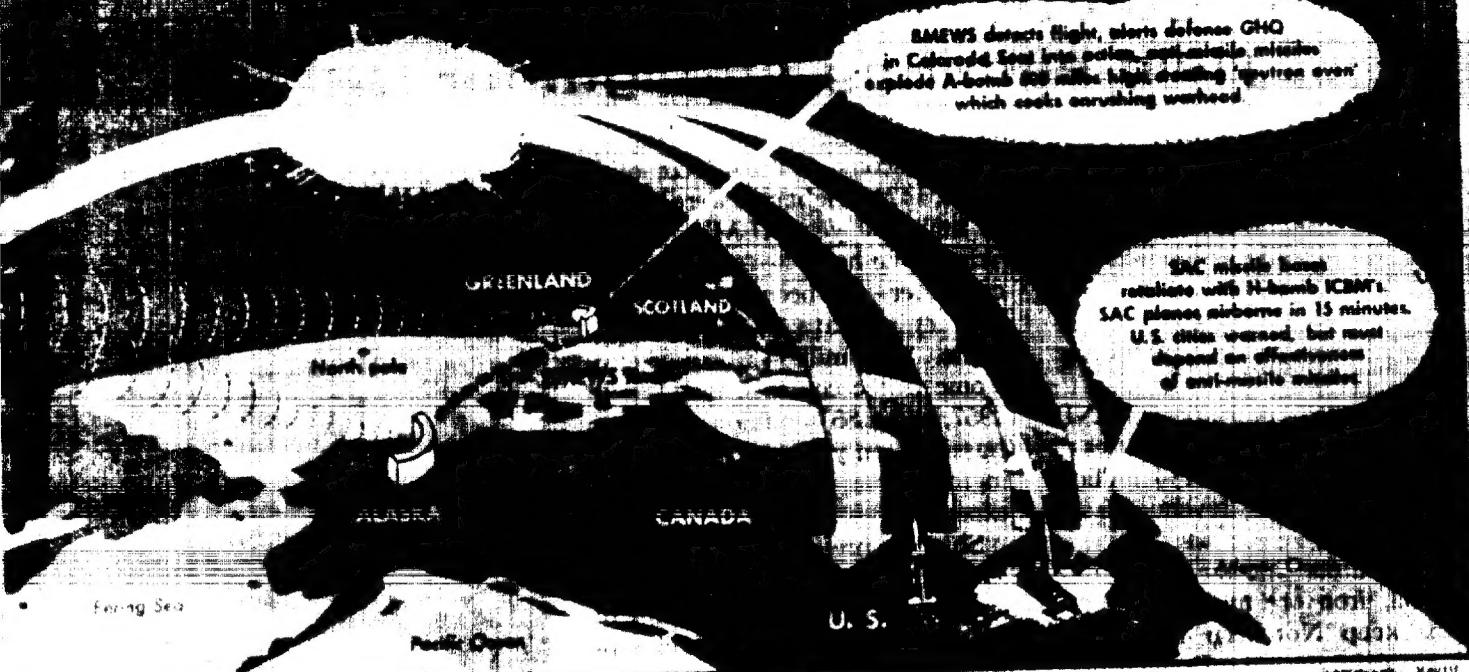
Thanks to this warning time, an estimated third of the 2,700 SAC H-bomb-carrying bombers (and later missiles) would be airborne and headed for Russia before the Red ICBMs thundered down on target—presumably SAC airfields and launch pads.

There are optimists in the Pentagon who argue that true missile defense, as well as brute retaliation, is possible. They hope: An anti-missile missile (AMM) that would meet the onrushing enemy ICBM head-on and destroy it before it landed and vaporized its U.S. target area. The Defense Department is backing the optimists heavily; before completion, the AMM project may cost as much as \$6 billion.

There are two keys to success with AMM, assuming BMEWS does its job:
►A powerful rocket launcher which in seconds can catapult the AMM atomic warhead some hundreds of miles into space for its rendezvous with the enemy missile. The Nike-Zeus, a big brother of the Nike anti-aircraft guided missiles that now ring American cities, is being touted by the Army for this task.
►A nuclear warhead slim enough to be packaged in the tip of a fast-moving Nike-type rocket but potent enough to create a formidable heat and neutron oven high in space. The first such warhead was fired last summer at U.S. Pacific Testing Grounds. Nuclear physicists calculated that the heat and blast effects of a near-miss could knock an ICBM off course. Splitting neutrons sent out by the fireball could

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Counterthrust: A Defense Against the Big Missile?



batter the enemy warhead prematurely.

No one, however, expects an AMM to be ready before 1981. At present, military strategists agree there is no defense against an ICBM attack, except the deterrent force of a good offense with H-bomb carrying bombers.

ROCKETS

Monkey's Journey

Squint smirks. Member of the common squirrel monkey family, so-called because of its long bushy tail. One of the smallest of the primates, tufted ears, 10 inches long, weight about 1 pound, winsome black eyes, white-faced, intelligent, amiable. Prefers the warm temperatures of its native South American river banks.

Impatient to push on with the task of getting an American into space first, the

space medical men last weekend turned to a 1-pound simian version of their first human passenger for flight testing.

Old Reliable, a tiny squirrel monkey selected and trained for his stamina in extensive ground tests, was sent rocketing in an Army Jupiter IRBM nose cone some 300 miles into space from Cape Canaveral, Fla. The monkey was a model in miniature of the first human passenger—correctly attired in chamois-lined crash helmet, strapped into a molded-rubber bed harness, knees drawn up in prescribed posture position to withstand the first jolts of acceleration (see below).

Animals much lower on the evolutionary tree had been sent into space before, but this was the first time a member of the primate family (which includes man and the great apes) had lingered a while up there. "The squirrel monkey has the same anatomical make-up as man and undergoes much the same emotions," the

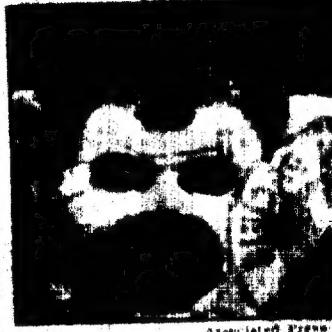
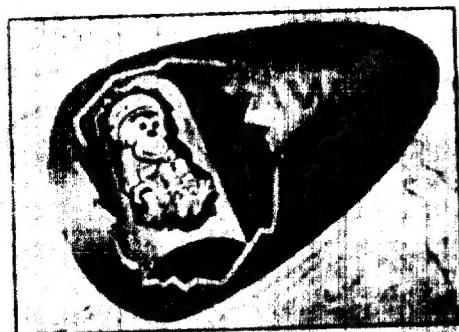
Army said, explaining its choice. Equally important, Old Reliable was small enough to fit in the limited space now available in present operational rockets.

Both Old Reliable and the brawny Jupiter performed exceedingly well. Lifting off at 4 a.m. Saturday morning, the Jupiter arched 1,600 miles to a point near Antigua in the Atlantic some fifteen minutes later. The monkey was in a 30-pound box-shaped capsule at the base of the nose cone, which separates from the burned-out fuel tanks and continues along in flight. Miniaturized equipment helped transmit heartbeat, pulse rate, blood pressure, temperature, and respiration. A tiny microphone taped to his chest picked up amiable chatter.

Watery Death More important than this monkey business, Old Reliable experienced more than eight minutes of free-floating weightlessness, which "produced no significant or adverse physical change," according to the monkey's trainer, Dr. Norman Lee Barr of the Naval Medical Research Center.

In sum, man's littlest cousin had a pleasant flight until the very end. The previously 100 per cent effective Jupiter recovery gear (a Rube Goldberg-like arrangement of automatic parachutes, pop-out balloons, flashing lights, and beeping antennas) failed to work. The nose cone—and Old Reliable—plowed into the Atlantic within sight of a waiting Navy rescue force, sinking quickly.

Anticipating complaints from the American Society for the Prevention of Cruelty to Animals, the Army said Old Reliable "had a minute materially to the ultimate flight of man in space."



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Periscopying the Nation

The Inside Story

PENTAGON — Latest intelligence here confirms previous tips (*Newsweek*, Dec. 1) that Russian space scientists are now concentrating their efforts on being first with a man in space. That's believed to be the real explanation for the fact that the U.S.S.R. has not launched more sputniks, or a lunar probe, in recent months.

NORFOLK, VA. — Navy experts who keep a top-secret daily chart on such things confide that the Soviets have indeed increased their submarine activity off the U.S. Atlantic Coast in the last two years—but only slightly. They emphatically deny that recent report of a big jump; insist most sightings of Red subs have proved false.

ATLANTA, GA. — It may be denied, but the periscope learns a big rally of Ku Klux Klansmen from all over the South is planned for Little Rock early next month. The exact date may be Jan. 6 when a Federal judge is to hold a hearing on when and how officials are to go ahead with integration in the Little Rock schools.

Headlines to Come

PENTAGON — "Midas" is the code name for a new, very early missile warning system being worked on here. By detecting infrared and ultra-violet rays and ionization trails of enemy ballistic missiles, Midas might give perhaps 25 minutes' warning of an attack. This compares with the five to fifteen minutes supposed to be afforded by the Ballistic Missile Early Warning System screen (*Newsweek*, Dec. 22) now being built.

CAPE CANAVERAL, FLA. — This hush-hush new weapon is expected to become the "Sunday punch" of SAC bombers in the next few years. The Bold Orion, a two-stage solid-fuel ballistic missile which can be launched by a bomber 1,000 miles from its target. An Air Force version of the Navy's highly touted Polaris, the Bold Orion already has been tested—with a high degree of success—in launches from a B-47.

A Russian in Space?
The Klan in Little Rock
'Midas' Touch
Why Bulgaria Confessed

EMBASSY ROW — A land-based version of the U.S.-Navy's Polaris IRBM will be produced in Britain by a new Anglo-American company, Bristol Aerojet Ltd. NATO sources say the British model will have a range of 2,500 miles vs. 1,500 miles for the sub-based U.S. version.

Behind the Headlines

DENVER, COLO. — One big reason Pentagon budget cutters didn't slash the Titan ICBM program (see page 22). That October visit Ike made to the Denver plant turning out the big missiles. He took a firsthand look at the production line and was impressed, and let this be known:

SEATEL OFFICE BUILDING — Who's tops with Republicans right now for 1960? Nixon whose standing dropped a bit after Rockefeller's win in New York, has bounced back into the lead. That's the consensus of carefully conducted private surveys. Those polled especially Midwest farmers—tended to be impressed by Rockefeller's feat but often didn't consider him partisan enough.

NATIONAL PRESS CLUB — Will Moscow hit Madison Avenue? Boris Krylov, cultural attache of the Soviet Embassy in Washington, D.C., has been asking around about New York public relations firms. The job he has in mind: Handling the visit next month of Deputy Russian Premier Anastas Mikoyan (see page 26).

EMBASSY ROW — In private, top diplomats here, including U.S. officials admit they're "very worried" by worsening Israel-U.A.R. relations. fear a major blowup is possible.

Where Are They Now?

NEW YORK CITY — Johnny Marks, whose "Rudolph the Red Nosed Reindeer" has sold 27 million records in the U.S. in nine years, is plugging a rock 'n' roll entry, "Rockin' Around the Christmas Tree" in this year's Tin Pan Alley

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TAB

Newsweek

NATIONAL AFFAIRS

February 16, 1959



MIG's in flight: The story behind the story was the real shocker (see below)

Kastell

A TRAP WAS SET FOR OUR C-130

The story the State Department told was chilling enough: Russian fighters had deliberately shot down a U.S. plane flying over Armenia; and there were transcripts of Russian radio messages to prove it. But even more chilling was the story the State Department only hinted at: The plane hadn't wandered into Armenia by mistake; it had been lured there.

The salient facts were these: Last Sept. 2, a U.S. Air Force C-130 transport vanished with seventeen men while on a flight over Turkey. Later, the Kremlin reported simply that it had "crashed" in Armenia. The world now knew that this was a barefaced lie. But what not all the world knew was this:

On Sept. 8, six days after the C-130 vanished, another Air Force plane set out to determine how the transport could have strayed from its flight path in Turkey into Soviet airspace. It flew on instruments in the same kind of overcast weather and over the same route—from Adana on the southern coast of Turkey, northward to Trabzon near the Soviet border, thence southeastward to Van.

And at Trabzon the pilot of the test plane discovered a strange thing: His radio direction finder, homing on the Trabzon tower, failed to indicate when he was passing the city. Instead it pointed straight ahead—toward Russia.

Decoy Signals Using special equipment aboard the test plane, skilled Air Force navigators determined that strong radio signals, only 1 kilocycle away from the Trabzon frequency, were coming from the Black Sea cities of Batum and Poti, just over the Soviet border. Obviously the C-130—if it con-

tinued visually because of cloud cover, might well have followed these powerful beams into Russia.

Still, this was not quite the complete answer. The transport had been due to turn southeastward, toward Van, and even if it was over the border when it made the turn, it would soon have been back over Turkish territory.

It was when the test plane turned at Trabzon and set its radio direction finder for Van that the big discovery was made. The navigators picked up an even stronger signal that kept pulling the RDF needle away from Van and toward Yerevan, the capital of Soviet Armenia. The Russian signal was 15 kilocycles away from the Van frequency, but so powerful it could hardly be distinguished from the true one. Had the test plane followed this beam, it would have blundered into the very region where the C-130 had gone down.

The conclusion seemed inescapable: The Russians were overpowering allied radio beams in a deliberate attempt to lure our planes over the border. Even the experienced navigators aboard the test plane admitted they were fooled, for a time, by the conflicting Soviet beams.

The Soviets had unquestionably set a trap, but why? The State Department had the answer to that too. The unarmed plane had been lured over the border to be deliberately shot down. As proof that it could back up this accusation, the State De-

partment produced a transcript of the radio conversation among the flock of five MIG's (like those in the photo above) that took part in the attack:

"The target is a transport, four engined."

"Roger."

"I am attacking the target."

"Target speed is 300 [kilometers, about 180 mph]. It is turning toward the fence [the border]."

"The target is burning."

"The tail assembly is falling off."

"Look at him. He will not get away, he is already falling . . ."

"Yes, he is falling. I will finish him off boys, I will finish him off on the run."

Corroborating Evidence The State Department would not divulge how it got the transcript, though presumably it came from U.S. or allied listening posts in Turkey. But the transcript clearly showed that the Soviet pilots knew their quarry was an unarmed transport, that the attack was unprovoked, and that it was pressed almost gleefully. Backing this up were photostats of two articles from the official Russian Air Force journal describing such an attack and con-

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Previous reports gathered by
Turkish intelligence say three Soviet jet fighters
shot down that U.S. C-130 transport that
crashed in Armenia last month. And what was
the plane doing over Soviet territory? U.S. Air
Force officials say they have proof the Russians
had been lured over the border with a decoy radio beam.

have. So a second element of risk goes into his calculations: Intelligence. The U.S. has not always had an accurate idea of what the Russians have (see page 28), and the Pentagon could, therefore, now be basing Western defense on a mistaken idea of Russian strength. As one example, U.S. intelligence figures the Russians will have only about ten to twelve ICBM's by December. There is other evidence, however—based on earlier reports—that the U.S.S.R. may have as many as 350 ICBM's by that time.

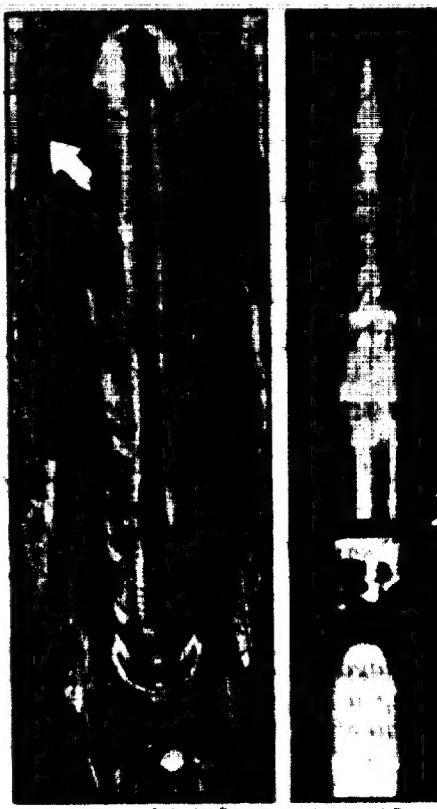
Total Conflict: By basing national defense on the strategy of massive retaliation, the Administration is also gambling that the Russians won't start a limited war for fear that it would lead to total war. The Pentagon believes that the Russians so far have avoided a showdown over Berlin, for example, because they don't want to run the risk of what it might lead to.

To some diplomats in Washington, it also appears that the President and Secretary of State John Foster Dulles are gambling that they can sell the second-best-in-missiles policy to the U.S.'s allies. "If they can't," one diplomat said recently, "they won't have any."

All such risks have been taken into account at the White House. The President himself, who knows that all military strategy is a calculated risk, found the risks acceptable. In private sessions with the Senate and House committees, McElroy has justified Mr. Eisenhower's position and exhibited complete confidence about the state of national security. Here is what McElroy told the congressmen behind closed doors:

We won't have a war so long as we can destroy the Russians if they start a war. Regardless of how many missiles they have now, we can destroy them.

The U.S. could now win a nuclear



Titans: Enough in time?

war hands down, McElroy says. For according to U.S. intelligence reports, so far, neither side has ICBM's (see chart, page 29). The Russians have more short-range missiles than we do. But ours can hit Moscow from allied bases; theirs could destroy our bases in Europe, but could not hit the U.S. And though we think that in time, missiles will be made accurate (to hit within 1 to 8 miles of the target), right now, a missile could hit a city but not a military installation.

This is why the manned bomber will

be the mainstay of our nuclear striking forces for some time yet. Now and for the rest of 1959, our weapons will be bombers and a few missiles; theirs will be fewer bombers and more missiles. The plan for the next few years:

►In 1960 and 1961, McElroy concedes the Russians will have far more ICBM's than we have Atlas and Titan missiles; but we will balance their ICBM advantage, he says, by having bombers armed with 500-mile missiles, plus regular bombers, plus our first submarines armed with the Polaris missile.

►By 1962, the Reds may have three times as many ICBM's as we have, and probably some missile subs; but we'll have more of them; our bombers will carry 1,000-mile missiles, and we'll get our first solid-fuel Minuteman missiles.

►By 1963 we will have the Minuteman in large numbers, emplaced in bomb-proof, underground launching pads, ready to fire at the push of a button.

This is the broad timetable, but, as McElroy told the House Armed Services Committee last week, "We review our military position month by month, and can change it."

Up and Down: While McElroy's private briefings have been more reassuring than his public statements, many Congressional leaders still are worried about the prospects of a growing "missile gap." Congressional worries increased when Gen. Thomas Power, SAC commander, admitted it is "conceivable" that SAC could be destroyed by one massive salvo of Red missiles.

Such testimony only added to Capitol

"Contrary to widespread opinion, the Air Force never has had a 24-hour 'air alert'—bombers in the air, ready to attack," Gen. Nathan F. Twining, head of the Joint Chiefs of Staff, told a House committee last week. "It isn't necessary. But General Power, who actually runs SAC, told a Senate committee he would like to have a number of loaded bombers in the air at all times."

How Much Do We Know About the Military . . .

The U.S. has no Mata Hari inside the Kremlin walls—so the official story goes. Instead, the U.S. Central Intelligence Agency and less well-known American espionage groups get most of their intelligence about the U.S.S.R. from more pedestrian sources: official Red documents, technical journals, monitored radio messages, and super-sensitive electronic equipment. Some of this information is reliable, and some is deceptive; thus the United States has had some notable intelligence successes and some notable failures.

How does the recent record look?

►A-bomb: U.S. intelligence experts predict the Russians will have an atomic bomb before 1957, and possibly as early as a year or so

later. To the astonishment of these experts, the Russians held their first atomic-bomb test in 1949.

►Korea: Though the North Korean Communists had staged a carefully planned series of border raids and had made repeated reconnaissances in force, U.S. troops in South Korea had no inkling that the Reds planned an all-out invasion. For several hours after the June 25, 1950, attack, intelligence agencies still thought it was another border raid.

►MIG-15: The MIG-15 came as a great surprise to the U.S. Air Force in Korea. It was faster than our F-86 could fly higher altitudes, and was more heavily armed. American intelligence predicted the Russians would turn out 100 more than six MIG-15's a month by hand—the

Russians actually built 10,000 of them.

►H-bomb: High-altitude planes working for AEC intelligence scooped up air samples that detected the first Soviet thermonuclear explosion in August 1953. Intelligence chemists analyzed the radiation of the Soviet blast, confirmed the theories of physicist Edward Teller, and thereby speeded the detonation of the first U.S. explosion of a portable H-bomb seven months later.

►Red bombers: The Soviets put their Bison bomber (similar to the B-52) into production three years sooner than U.S. intelligence expected. The Defense Department got wind of it at the display of B-52 bombers at the 1955 Paris Air Show. The DEWY line across Canada, and tested

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the details of defense cutbacks for a year have convinced many Democrats that McElroy has knuckled under "the budget people." But despite this reservation, McElroy is still very well liked on both sides of the aisle in both houses of Congress. He is considered a vast improvement over his predecessor; he has none of Charles E. Wilson's stubbornness and lack of tact. Wilson was in the habit of addressing distinguished senators as "you people"; but McElroy remembers names, is always polite, and when he's wrong, he admits it.

Solid Accomplishments Measured against his predecessor, McElroy, former head of Procter & Gamble, has written a good record in his one and a half years at the Pentagon. He came in at a time when the nation demanded that the Administration match the Russian sputniks, get more U.S. missiles built, and end interservice rivalry. In quick time, McElroy did persuade the White House to lift the defense-spending ceiling. He brought the Army into the satellite program, and put the first U.S. satellites in orbit. He restored basic-research programs that had been cut for economy reasons ("who cares why the grass is green?" was Charlie Wilson's attitude toward basic research); McElroy speeded progress on both the Atlas and the Titan, which was successfully tested last week—well ahead of schedule. He stepped up work on the Polaris and Minuteman, ordered five missile submarines, and has begun reorganizing the Defense Department to eliminate costly duplications of effort. Though interservice rivalry still exists, McElroy has even done much to ease that problem.

In the privacy of the Pentagon and before the National Security Council, McElroy has made it clear that he

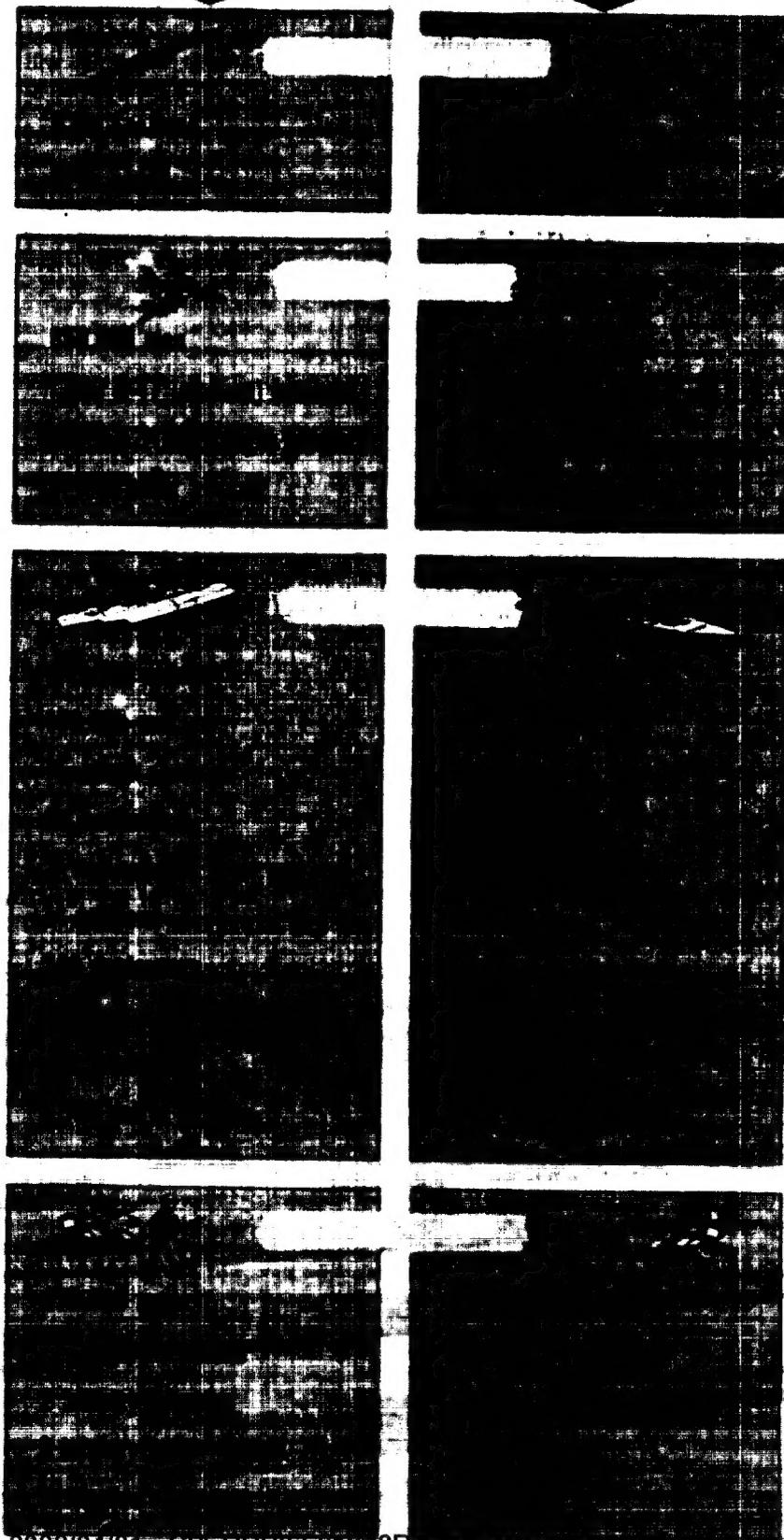
... In Russia

through new anti-aircraft missiles. While the U.S. was concentrating on bomber defenses, Russia got busy on missiles.

► **Missiles:** As early as 1954, intelligence gained through technical literature, traveling scientists, and industrial statistics showed that the U.S.S.R. had launched a major program to build missiles. A huge Air Force radar station in Turkey picked up the Soviets' first intermediate-range missile tests beginning in 1956 by monitoring the upper atmosphere. The same station detected the first successful intercontinental missile test in August 1957. A vast network of electronic monitoring devices in the Near and Middle East also keeps constant watch on sputniks and Soviet military and commercial communications.

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